REMARKS/ARGUMENTS

Claims 1-18 and 20-21 are pending in this application. By this Amendment, claims 3, 8 and 18 are amended, claim 19 is canceled without prejudice or disclaimer and claims 20-21 are added. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

Applicant sincerely acknowledges the Office Action's indication that claims 4-5, 13-14 and 16 define patentable subject matter. However, for at least the reasons set forth below, Applicant respectfully submits all pending claims are in condition for allowance.

A.   The Office Action rejects claims 1-3, 8-12 and 17-19 under 35 U.S.C. §103(a) over U.S. Patent No. 5,831,688 to Yamada et al. (hereafter "Yamada") and U.S. Patent No. 6,735,253 to Chang et al. (hereafter "Chang"). The Office Action also rejects claims 6 and 15 under 35 U.S.C. §103(a) over Yamada, Chang and U.S. Patent No. 6,178,202 to Nakaya. The rejections are respectfully traversed.

The Patent Office bears the initial burden of proving prima facie conclusion of obviousness. MPEP §2142. The required elements of proof are (1) a suggestion or motivation to modify or combine references, (2) reasonable expectation of success, and (3) the references must teach or suggest all the claimed features. MPEP §2143. Applicant respectfully submits that claims 1 and 11 are not properly rejected over Yamada and Chang because neither teach or suggest recited features of the claimed invention. For example, Yamada and Chang, individually or in combination, do not teach or suggest at least features of an adaptive motion-compensator

performing an active global motion compensation on said output video data stream using global motion parameters estimated based on motion and macro-block information of said input video data stream and further performing an active local motion compensation on said output video data stream using said motion information and combinations thereof as recited in claim 1 or features of performing a global motion compensation on said current image frame if said global motion exists in said current image frame by calculating each pixel value of said current image frame using its corresponding pixel values of a previous image frame, said previous image frame being determined by using said global motion parameters and combinations thereof as recited in claim 11.

The Office Action admits that Yamada does not teach or suggest performing an active global motion compensation using global motion parameters estimated based on motion and macro block information of said input video data stream and further performing motion compensation on said output video data stream using said motion information, but asserts such features are disclosed by Chang, citing Figure 6, Item 600, column 5, lines 27-33 and column 9, lines 11-18 of Chang. Further, the Office Action asserts motivation for modifying Yamada by incorporating Chang's disclosure regarding global motion compensation is to provide "comprehensive techniques for indexing and manipulating digital video in the compressed domain" as taught by Chang, citing column 4, lines 7-9 of Chang. See Item 2, lines 1-19 of page 3 of the Office Action.

Yamada

Yamada discloses an image coded data re-encoding apparatus including an image encoder (Figure 1a) and an image decoder (Figure 1b). Yamada discloses the image coder uses data for coding to process a decoded image inputted from the image decoder, re-encode the decoded image and output the re-coded data 107. The image coder can use a coding mode (intra-frame, inter-frame predictive) as the decoded data, for example. See Figs. 1a-1b and column 3 lines 25-50. Thus, Yamada discloses transmitting information (e.g., 104a, 106a, 113a) from a decoder to a re-encoder about re-encoding data. See column 6 lines 6-23.

Chang

Chang discloses a technique for indexing and manipulating digital video that allows key content browsing and searching without full decoding and viewing an entire video stream and video editing directly in the compressed domain. In Figures 1-6, Change discloses detecting moving objects in a compressed digital bitstream. See column 4, lines 7-16 and 29-31 of Chang. Chang discloses analyzing a compressed bit stream to locate scene cuts to determine a single video scene. Further, one or more operating parameters of a camera that initially captured the video scene can be determined by analyzing the portion that may have a global motion of the shot being analyzed. In addition, one or more moving video objects represented in the compressed bit stream can be detected by applying global motion compensation with the estimated camera operating parameters. See column 4, lines 33-44, column 10, lines 22-40,

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column 11, lines 7-24 and claims 1 and 6 of Chang. Chang further discloses tools in film editing including masking, freeze, dissolve and variable speed playback. See columns 12-14 of Chang.

In particular, Applicant respectfully submits that Chang discloses parsing module 110 determines scene cuts and individual shot segments are analyzed for camera parameters to detect moving objects 117 in compressed video information. See column 7, lines 23-33 and column 9 lines 4-18 of Chang. Visualization module 120 uses derived camera zoom/pan information to extract key frames 121 (column 7, lines 34-37) or object motion can be extracted (column 10, lines 22-42). See Figure 6 of Chang.

Accordingly, Applicant respectfully submits that Chang does not teach or suggest any modification to Yamada related to re-encoding decoded data to provide different bit rate with increased accuracy. In contrast, Chang discloses methods of extracting moving objects 117 from compressed bitstream 201 partially based on some camera global motion analysis in "shots." Further, Applicant respectfully submits Yamada modified by Chang would add an indexing and editing capability to the re-encoding apparatus of Yamada. Thus, Applicant respectfully submits Chang does not teach or suggest modifying and combining a global motion compensation (GMC) technique to detect moving objects with a data re-encoding apparatus such as Yamada to prevent image quality degradation when processing a video image at a reduced data bit rate. Thus, Applicant respectfully submits Yamada and Chang, individually or in combination, would not teach or suggest at least features of an adaptive motion-compensator and combinations thereof as recited in claim 1.

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2.   Further, although the references in general are in the same field of endeavor, the specific features and the specific motivation to combine them that is asserted to result in features recited in claims 1-19 are believed to have been arrived at using impermissible hindsight reference. The Federal Circuit has held that there must be a clear and particular suggestion in the prior art to combine the teachings of the cited references in the manner proposed by the Examiner. As explained by the Federal Circuit, "[o]ur case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references." *See In re Dembiczak* 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed Cir. 1999). Applicant respectfully submits that Chang does not disclose a transcoding device. Applicant respectfully submits that Yamada does not index or edit the re-encoded data except so that an image quality is not so much deteriorated. See column 3, lines 14-48 of Yamada. Applicant respectfully submits that the Office Action has not provided specific support or rationale from the applied references for an apparatus of transcoding image data including an adaptive motion-compensator and combinations thereof as recited in claim 1.

3.   Applicant respectfully submits Nakaya does not teach or suggest at least features of an apparatus of transcoding image data and a method of transcoding image data recited in claims 1 and 11 and lacking in Yamada and Chang.

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4.   With respect to claim 2, Applicant respectfully submits that Yamada and Chang

do not teach or suggest at least features of an adaptive motion-controller, a global motion-

compensator, and a local motion-compensator and combinations thereof as recited.

For at least the reasons set forth above, Applicant respectfully submits claim 1 defines

patentable subject matter. Claim 11 defines patentable subject matter for at reasons similar to

claim 1. Claims 2-3, 6, 8-10, 12, 15 and 17-18 depend from claims 1 and 11, respectively, and

therefore also define patentable subject matter. Claim 19 was canceled with out prejudice or

disclaimer. Withdrawal of the rejection of claims 1-3, 6, 8-12, 15 and 17-19 under §103 is

respectfully requested.

B.   Claims 20-21 are newly added by this Amendment and believe to be in condition

for allowance.

CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that the

application is in condition for allowance. Favorable consideration and prompt allowance are

earnestly solicited.

If the Examiner believes that any additional changes would place the application in better

condition for allowance, the Examiner is invited to contact the undersigned attorney, **Carl R.

Wesolowski**, at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is

hereby made. Please charge any shortage in fees due in connection with the filing of this,

concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and

please credit any excess fees to such deposit account.

Respectfully submitted,
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